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THE COMMISSIONER OF PATENTS AND TRADEMARKS:

Applicant, Barbara J. Messel, a citizen of the United States of America and resident of Joliet, County of Will, State of Illinois, prays that Letters Patent be granted to her for the new and useful

STORAGE RACK FOR BEDPANS

set forth in the following specification:

Related Application

This application claims priority of my copending U.S. Provisional Patent Application No. 60/411,400 filed September 16, 2002, the entire disclosure of which is herein incorporated by
5 reference thereto.

SPECIFICATION

Background of the Invention

Field: The present invention generally relates to storage racks and cleaning methods for
10 hospital devices, and more specifically to storage racks and cleaning methods for bedpans, urinals, graduated bottles, and other receptacles used to temporarily contain bodily fluids and other bodily products, and methods for cleaning, sanitizing, and storing such hospital receptacles.

State of the Art: Immobile patients in hospitals, other such health care facilities, and in-home
15 care cannot walk or be easily taken by wheelchair to the bathroom. Consequently, various receptacles have been developed to receive urine and feces such as bedpans and urinals while the patient remains in bed. Likewise, various urine measuring receptacles are utilized such as disposable foley bags which are emptied into graduated bottles to measure urine output. While these receptacles are generally adequate for their intended purposes, cleaning and storage thereof has remained a
20 problem. There is typically no designated area for storage of such receptacles when not in use. The receptacles must be located close to the patients to allow immediate access due to the oftentimes sudden need to use such receptacles based on patient needs. Yet the receptacles cannot significantly interfere with care for the patients. Sometimes such receptacles are temporarily or permanently stored on over-bed stands or on bedside cabinets. However, oftentimes the receptacles are missing
25 when needed or are accidentally knocked over spilling the bodily products when stored in such locations. Likewise, there is typically no standard way of cleaning and sanitizing the receptacles

following use and emptying of the bodily materials. The receptacles are washed by hand using whatever cleaning device is convenient using standard hospital cleaning and disinfecting solutions. Oftentimes, no cleaning device is available conveniently available, requiring searching for such cleaning device or postponement of cleaning which may lead to a biohazard problem.

5 Several devices have been patented which attempt to solve certain aspects of the storage problem for receptacles. For example, in U.S. Patent No. 4,573,653 issued to Boettger on March 4, 1986 is disclosed a urinal holder for hospital over-bed tables. The urinal holder is primarily formed from a single, continuous piece of wire which is formed to provide an upper urinal receiving opening and a lower base upon which a urinal may rest. Hooks disposed at an upper rear portion of
10 the urinal holder are used to attach the holder to an upright post of the over-bed table. The rear of the base also engages the upright post to further stabilize the urinal holder. In U.S. Patent No. 5,626,318 issued to Boettger , et al. on May 6, 1997 is disclosed a receptacle holder assembly for urinals which is mountable on a variety of differently configured support surfaces. The assembly includes a holder unit having a pair of spaced apart mounting legs for supporting a urinal. An
15 attachment member is coupled to each leg for independent pivoting movement thereof about the respective leg. Each holder is provided with either mating hook and loop strips or adhesives allowing the receptacle holder assembly to be secured to the support surfaces. Both of these devices accommodate only a single urinal.

 Several other devices have been marketed which also attempt to solve certain aspects of the
20 storage problem for receptacles. A recessed bedpan and urinal cabinet is sold by American Specialties, Inc. of Yonkers, New York which accommodates a bedpan and one or more urinals. The cabinet has a single shelf which supports the bedpan and a closeable door. The cabinet requires cutting out a piece of wall in which to mount the cabinet, and must be mounted between vertical wall studs or the studs be cut. The same company sells a surface mounted bedpan and urinal rack. The
25 rack includes a wall mounted plate and a pair of brackets or shelves which respectively accommodate a single bedpan and urinal. The rack does not accommodate storage of multiple urinals.

There is a need for a storage device and cleaning method for hospital receptacles which allows storage of bedpans, multiple urinals, and other receptacles. The storage device would not require cutting of walls, be locatable closely adjacent patients, and accommodate a cleaning device.

Summary of the Invention

The present invention is a storage rack for bedpans which mounts to a vertical surface, and a method for cleaning, sanitizing, and storing hospital devices used to temporarily contain bodily fluids and other bodily products.

The storage rack for bedpans comprises a support which is adapted to receive and hold at least one bedpan, and a shield which is adapted to be mounted to the vertical surface to protect it from splatters. The support is adapted to be mountable to the shield to retain the bedpan on the vertical surface.

In a first preferred storage rack for bedpans, the support and the shield are of substantially rectangular configuration fabricated substantially from rods. The support comprises an upper rack and a lower rack which are interconnected by at least one connecting member comprising a rod. The lower rack is adapted to receive and hold the bedpan. The upper and lower racks each include a front wall, a pair of side walls, and a rear wall which define respective interior device receiving spaces. The interior device receiving space of the lower rack comprises a bedpan receiving space in which the urinal may be placed. Each connecting member is adapted to be cut to separate the upper and lower racks. The shield plate is also adapted to be cut to provide respective upper and lower shield plates for the upper and lower racks. The upper and lower shield plates are mounted to the vertical surface in a desired arrangement and with the upper and lower racks respectively attached thereto. Alternatively, the upper and lower racks and the upper and lower shields or shield plates are initially fabricated as separate components which assemble together in the same manner.

In a second preferred storage rack for bedpans, the support is removably mountable to the shield plate. The support includes a plurality of the mounting plates affixed thereto, each having the

keyhole therethrough with a circular bottom and a narrower slot extending therefrom. The shield includes a plurality of the headed studs arranged in corresponding positions to the keyholes. Each headed stud has a rod affixed extending from the shield and a head spaced from the shield. The rods are of such a size as to closely slidably fit through the slots and the heads are of such a size as to closely pass through the circular bottoms of the keyholes. The shield comprises a shield plate made of a sheet material chosen from the group consisting of plexiglass, stainless steel, aluminum, and plastic, the shield plate. The shield has a plurality of mounting holes therethrough for passing respective screws to mount the shield plate to the vertical surface.

In a third preferred storage rack for bedpans, the support is adapted to receive and hold at least one device in addition to the bedpan chosen from the group consisting of a urinal and a graduated bottle. The storage rack further comprises a cleaning device chosen from the group consisting of a manual urinal scrubbing device and a spray bottle, and further comprises a container adapted to receive and hold the cleaning device. The support includes respective upper and lower brackets externally affixed thereto and adapted to receive and hold the cleaning device.

The method for cleaning, sanitizing, and storing hospital devices used to temporarily contain bodily fluids and other bodily products, comprises the steps of: 1) providing a support mounted on a vertical surface adapted for receiving and supporting a cleaning device and at least one hospital device; 2) placing the cleaning device and the hospital device on the support; 3) removing at least one hospital device from the support and using it to receive the bodily product; 4) dumping the bodily product from the hospital device; 5) removing the cleaning device from the support device; 6) cleaning and sanitizing the hospital device using the cleaning device; and 7) replacing the cleaning device and the cleaned hospital device on the support for later use.

In a first preferred method, the support provided is mounted on the vertical surface with a shield therebetween to protect the vertical surface from splatters. The hospital device is a bedpan and at least one other chosen from the group consisting of a urinal and a graduated bottle.

A second preferred method further comprises the step of providing a cleaning and disinfecting solution for use with the cleaning device. The cleaning device used is chosen from the group consisting of a manual scrubbing device and a spray bottle, used with a container adapted to receive and hold the cleaning device on the support.

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The Drawings

The best mode presently contemplated for carrying out the invention is illustrated in the accompanying drawings, in which:

FIG. 1 is a front elevational view of a storage rack of the present invention which includes
10 a shield plate permanently mounted to a wall and a wire rack removably mounted thereto holding a bedpan, a urinal, a plurality of graduated bottles, a bedpan cleaning device comprising a hand mop, and a container for holding cleaning solution;

FIG. 2, a side elevational view of the storage rack mounted to the wall taken on the line 2-2 of FIG. 1 showing the hand mop and container retained by a pair of brackets;

15 FIG. 3, a front elevational view of the wire rack;

FIG. 4, a side elevational view of the wire rack taken on the line 4-4 of FIG. 3;

FIG. 5, a view side elevational view of the wire rack taken on the line 5-5 of FIG. 3 showing the pair of brackets for retaining the hand mop and container;

FIG. 6, a top plan view of the brackets taken on the line 6-6 of FIG. 3;

20 FIG. 7, a top plan view of the wire rack taken on the line 7-7 of FIG. 3;

FIG. 8, a front elevational view of the shield plate;

FIG. 9, a front elevational view of a mounting plate affixed to the wire rack taken on the line 9-9 of FIG. 3 to a much enlarged scale showing the keyhole therethrough;

25 FIG. 10, a side elevational view of the mounting plate taken on the line 10-10 of FIG. 1 to a much enlarged scale;

FIG. 11, a front elevational view of a modified storage rack with the wire rack as cut at the dotted lines of FIG. 3 and the shield plate as cut at the dotted lines of FIG. 8, respective pieces of the of the shield plate being permanently mounted to a wall side-by-side and respective pieces of the cut wire rack being removably mounted thereto holding the bedpan, the urinal, the plurality of graduated bottles, and a bedpan cleaning device comprising a spray bottle containing cleaning solution, and a container for holding the spray bottle; and

FIG. 12, a perspective view of a protective cap used to cover respective ends of wires cut to make the cut wire rack.

Detailed Description of the Illustrated Embodiments

Referring to FIGS. 1-10, therein is shown a storage rack for bedpans and other hospital receptacles used to temporarily contain bodily fluids and other bodily products in accordance with the present invention, designated generally at 20. The storage rack 20 mounts to a vertical surface such as that of a wall 22 comprising an open stud wall covered with wallboard, a cinder block wall, a concrete wall, or other such wall construction.

The storage rack 20 includes a support which is fabricated substantially from rods, in the form of a wire rack 24 which is adapted to be removably mountable to a shield in the form of a shield plate 26 permanently or semi-permanently mounted to the wall 22. The wire rack 24 and shield plate 26 are each substantially of rectangular configuration. The storage rack 20 is adapted to receive and hold at least one hospital receptacle such as a bedpan 28, a urinal 30, a plurality of graduated bottles 32. Additionally, the storage rack 20 is adapted to receive and hold a first bedpan cleaning device 34 in the form of a manual scrubbing device or hand mop 36, and a cylindrical container 38 for holding cleaning solution (not shown) to retain the receptacles and the hand mop 36 on the wall 22. The shield plate 26 is adapted to protect the wall 22 from splatters of urine, feces, and other bodily products which may be contained in the receptacles such as if cleaning is not done prior to storage thereof in storage rack 20.

The wire rack 24 is in the form of a unitized body which includes an upper rack 40 and a lower rack 42 which are fabricated from a plurality of cut pieces of raw thick wire or raw rod 44 which are bent to shape and affixed together in a spaced, parallel relationship such as by welding, adhesives, or other such fastening technology at mutual contact points to form an open framework which facilitates airflow and drying of the bedpan 28, the urinal 30, and the plurality of graduated bottles 32. The raw rod 44 is a relatively slender, continuous length of a suitable plastic material, or a metal material such as stainless steel, carbon steel, or aluminum having a uniform diameter throughout its length. If metal rods are used, the entire assembled wire rack 24 may thereafter be dip or spray coated with an outer layer (not shown) of a suitable plastic material such as vinyl which is durable and corrosion-resistant and which may be colored as desired to enhance the aesthetic appeal of the wire rack. Alternatively, the entire assembled wire rack 24 may be plated with a suitable metal coating such as chrome or nickel, or painted to minimize rust and corrosion.

A plurality of common connecting members or rods 45 interconnect the upper rack 40 and the lower rack 42. The connecting rods 45 are adapted to be cut to separate the upper rack 40 from the lower rack 42 by being of a material and size which is cuttable using wire cutters or the like, having breakable serrations (not shown), or similar arrangement. The upper rack 40 includes a front wall 46, a pair of side walls 48 and 50, a bottom wall 51, and a rear wall 52 which includes portions of the connecting rods 45. The walls 46, 48, 50, 51, and 52 define a device receiving space 53 in which the urinals 30 and graduated bottles 32 may be placed. The walls 46, 48, 50, 51, and 52 include bent rods 54, transverse rods 55, longitudinal rods 56, and short vertical rods 58. The lower rack 42 includes a front wall 60, a pair of side walls 62 and 64, a bottom wall 65, and a rear wall 66 which also includes portions of the connecting rods 45. The walls 60, 62, 64, and 66 define a bedpan receiving space 67 in which the bedpan 28 may be placed. The walls 60, 62, 64, 65, and 66 include the bent rods 54, the transverse rods 55, the longitudinal rods 56, and long vertical rods 68. A plurality of mounting plates 69 are affixed to upper rack 40 and lower rack 42, each having a keyhole 70 therethrough with a circular bottom 72 and a narrower slot 74 extending therefrom. Lower rack

42 includes respective upper and lower brackets 76 and 78 which are externally affixed to the side wall 62 to receive and hold the hand mop 36 and container 38. The upper bracket 76 comprises a ring of the raw wire rod 44 adapted to closely receive the container 38, and the lower bracket comprises a platform or oval of the raw wire rod 44 adapted to vertically support the container 38.

5 The shield plate 26 is of a rectangular shape slightly taller than the wire rack 24 made of a suitable cleanable sheet material such as plexiglass, stainless steel, or aluminum to protect the wall 22 from splatters. Suitable sheet materials include plexiglass of a thickness of between about .125 and .187 inch thick, stainless steel of a thickness of between about .062 and .125 inch thick, and aluminum of a thickness of between about .125 and .250 inch thick. The shield plate 26 is adapted
10 to be cut by being of a material and thickness such as stated which may be readily cut using an electric hand saw or the like. The shield plate 26 has a plurality of mounting holes 84 therethrough for passing respective screws 86 for mounting to the wall 22. A plurality of headed studs 88 are arranged in corresponding positions to the keyholes 70, each having a rod 90 affixed extending from respective stud holes 92 of the shield plate 26 such as at threaded, welded, or pressfit connections.
15 Each headed stud terminates at a head 94 disposed slightly spaced from the shield plate 26. The rods 90 are of such a size as to closely slidably fit through the slots 74 and the heads 94 being of such a size as to closely pass through the circular bottoms 72 of keyholes 70. The stud holes 92 with protruding headed studs 88 correspond in position to the keyholes 70 through the mounting plates 69 of wire rack 24 such that the wire rack 24 is removably affixable to the shield plate 29 supported
20 on the headed studs 88. This is accomplished by first aligning corresponding pairs of headed studs 88 and keyholes 70, then inserting the heads 94 through the circular bottoms 72 of keyholes 70, and finally lowering the wire rack 24 such that the rods 90 slide along the slots 74 thereof. The procedure is reversed to remove wire rack 24 from shield plate 26.

 The hand mop 36 and the container 38 adapted to receive and hold the hand mop 36 with
25 cleaning solution are of conventional design used for cleaning and disinfecting such as in hospitals. The hand mop 36 includes an elongate handle 96 of plastic or similar cleanable material to which

an absorbent ball 98 of string or similar absorbent material is attached. The container 38 is made of plastic or similar cleanable material.

Referring to FIGS. 11 and 12, therein is shown a modified storage rack 100 for bedpans 28 which mounts to the wall 22. The storage rack 100 is made by cutting the storage rack 20 to separate the upper rack 40 from the lower rack 42, and cutting the shield plate 26 which is permanently mounted to the wall 22. The storage rack 100 is shown supporting the bedpan 28, the urinal 30, the plurality of graduated bottles 32, and a second bedpan cleaning device 102 in the form of a spray bottle 104 for holding cleaning solution (not shown), and a cylindrical container 106 for holding the spray bottle 104.

The storage rack 20 is cut to produce the storage rack 100 by cutting through the connecting rods 45 which interconnect the upper rack 40 and the lower rack 42 on dotted cutting lines 108 and 110 to remove respective middles 112 of connecting rods 45. The shield plate 26 is cut on dotted cutting lines 114 and 116 to remove a middle 118 thereof forming respective upper and lower shield plates 120 and 122 for the upper and lower racks 40 and 42. The upper and lower shield plates 120 and 122 are mounted to the wall 22, using the screws 86, in a side-by-side or other desired arrangement and with the upper and lower racks 40 and 42 respectively attached thereto. The separated upper and lower racks 40 and 42 are attached to respective of the upper and lower shield plates 120 and 122 as stated above. A plurality of resilient protective caps 124 are used to cover respective remaining ends 126 and 128 of the cut connecting rods 45 to prevent injury to persons brushing thereagainst. Alternatively, the upper and lower racks 40 and 42, and the upper and lower shield plates 120 and 122 can be initially made as separate components.

The second bedpan cleaning device 102 including the spray bottle 104 for holding cleaning solution and container 106 for holding the spray bottle 104 are of conventional design used for cleaning and disinfecting such as in hospitals. The spray bottle 104 includes a trigger operable pump spray head 130 of plastic or similar cleanable material to which a bottle 132 of plastic or similar material is screw attached.

A method for cleaning, sanitizing, and storing hospital devices used to temporarily contain bodily fluids and other bodily products, comprising the steps of: 1) providing a support mounted on a vertical surface adapted for receiving and supporting a cleaning device and at least one hospital device; 2) placing the cleaning device and the hospital device on the support; 3) removing at least one hospital device from the support and using it to receive the bodily product; 4) dumping the bodily product from the hospital device; 5) removing the cleaning device from the support device; 6) cleaning and sanitizing the hospital device using the cleaning device; and 7) replacing the cleaning device and the cleaned hospital device on the support for later use.

The support provided may be mounted on the vertical surface with a shield therebetween to protect the wall from splatters, and the hospital device may comprise a bedpan and at least one other chosen from the group consisting of a urinal and a graduated bottle. The method may further comprise the step of providing a cleaning and disinfecting solution for use with the cleaning device, and the cleaning device used chosen from the group consisting of a manual scrubbing device and a spray bottle, used with a container adapted to receive and hold the cleaning device on the support.

Many variations to the present invention are possible while staying within the same inventive concept. For example, the support may be fixedly mounted to the shield plate. The raw rods may be of other than cylindrical cross-section such as square or hex-shaped. The raw rod construction may be replaced by plastic panels molded such as by pressure molding or injection molding. Other connecting devices other than headed studs and mating keyholes may be used.

Whereas this invention is here illustrated and described with reference to embodiments thereof presently contemplated as the best mode of carrying out such invention in actual practice, it is to be understood that various changes may be made in adapting the invention to different embodiments without departing from the broader inventive concepts disclosed herein and comprehended by the claims that follow.